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Bureau of Land Management
Information and Data Management Study
Final Report
Phase I
Planning and Coordination



Preliminary Draft

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Draft Report
Planning and Coordination Phase

Information and Data Management Study

for the
Bureau of Land Management
United States Department of the Interior

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Prepared by the
Strategic Plan Study Team
BLM-Denver
and
IBM Federal Systems Division-Gaithersburg

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1.0 INTRODUCTION

The purpose of this study is to develop a strategic plan to apply appropriate Automatic Data Processing and Remote Sensing system technologies to the needs of the Bureau of Land Management on an evolutionary basis while at the same time solving the problems associated with data/information and process deficiencies that may exist within BLM.

The study is being conducted in five phases:

Phase I -- Planning and Coordination

Phase II -- Site Survey and Analysis

Phase III-- Data/Technology Survey and Analysis

Phase IV -- Systems Recommendations

Phase V -- Plan Formulation

This is the Phase I "Planning and Coordination," report for the Bureau of Land Management "Information and Data Management Study." It is the first of five reports which, together with the "BLM Strategic Information Plan," are the final products of this study.

The objectives of Phase I, Planning and Coordination, were to identify offices to be surveyed, develop a survey schedule, develop a questionnaire, develop interview procedures and conduct and analyze pilot surveys.

The remainder of this report is organized as follows:

- Section 2. "Analysis of Bureau of Land Management Work Responsibilities" describes the results of the analysis undertaken to define common data and process possibilities and to provide for understanding of BLM operations by BLM/IBM team members. This analysis resulted in the construction of several charts and models which should also be of interest and use to BLM personnel not directly associated with this project.
- Section 3. "Questionnaire Design and Interview Format" states the criteria and approach used to finalize the interview techniques to be employed in the site surveys.
- Section 4. "Site Selection" describes the reasoning for selection of offices to be surveyed.
- Section 5. "Pilot Survey" presents the purpose and the results of the pilot surveys.
- Section 6. "Conclusion" summarizes the results of the Planning and Coordination Phase.

At the outset of the strategic plan development project, several philosophical factors were discussed and adopted as assumptions. These premises were used as guidance when decisions were required for which the various alternatives appeared to weigh equally. They were that:

- The real mission of BLM is performed at the area and district level. If the operational information and processing requirements of this level are truly satisfied, generally the requirements of higher levels within BLM can be satisfied through the development of proper compilation and reporting techniques.
- In order for the study to be thorough, some Bureau oriented checklist must be adopted that includes all tasks that the Bureau does. The most obvious is the Bureau's work job-code structure. This will be used as long as it remains a viable tool in assuring that all facets of the Bureau are being covered.
- Realizing the complexity of the task being undertaken and that complex situations tend to overwhelm to the point where no progress can be made, a technique of developing a "strawman" will be adopted.

- This technique involves developing an end item on a first-cut or best-guess basis, then refining and improving it into a satisfactory product by mapping all future results against the "strawman" to test its continuing validity.
- It is realized from the outset of the project that the survey phase will result in a large amount of information that may seem unrelated and in some cases conflicting. In order to derive conclusive results from large amounts of diverse data, a categorization technique must be developed prior to the survey so that all information collected will be useful. At the same time, the survey must be structured so as not to pre-bias the group being surveyed.

2.0 ANALYSIS OF BUREAU OF LAND MANAGEMENT WORK RESPONSIBILITIES

The initial undertaking of the team was to perform a broad analysis of the Bureau of Land Management work responsibilities and their definition. This was done to acquaint IBM personnel with BLM functions, to expand the knowledge of BLM personnel, and to develop a basis for performing site surveys and data analysis. In order to assure that the analysis covered all aspects of the Bureau's work responsibilities, the "Work Job Code Handbook", Form 1634, was selected as the basis for this step within the Planning and Coordination Phase of the project.^{1/} Several charts were generated to support this effort, some of which are already being used by Bureau personnel for work not directly associated with this project. A discussion of these charts follows.

2.1 Work Element Relationship Chart

The Work Element Relationship (WER) Chart, Figure 2-1, was developed from the Work Job Code Handbook and illustrates the relationships between all BLM work job codes. As the chart is examined, work progresses from top to bottom on the chart. For example, an adequate "Inventory and Analysis", work element (20), must be performed prior to "Planning", work element (22), which must be accomplished before reasonable "Utilization or Protection" actions can be taken.

^{1/} The "Work Job Code Handbook", Form 1634 dated May 24, 1973, was initially used. A revision dated June 15, 1974 was later received. However, the changes were not significant with relation to this project.

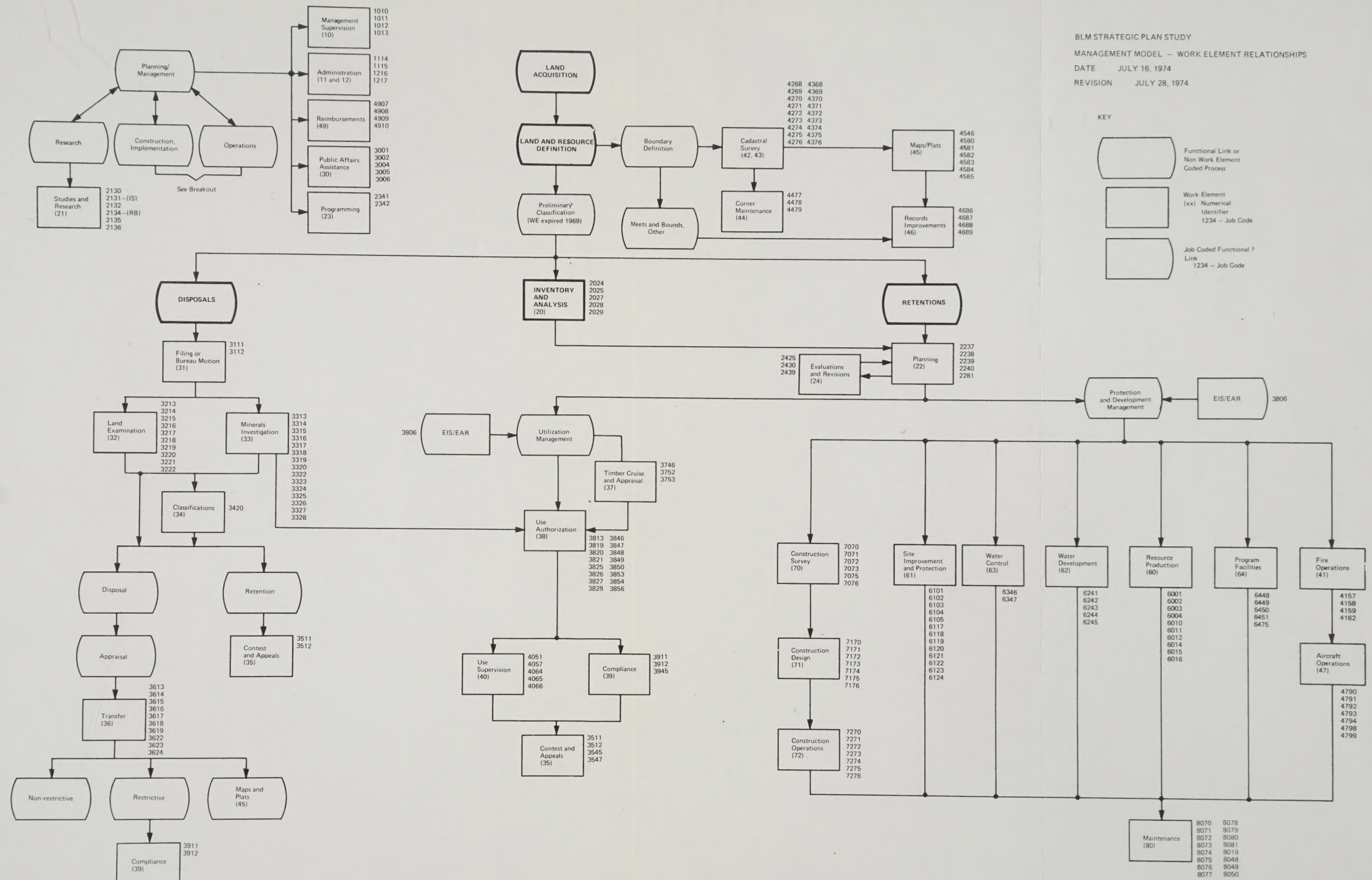


FIGURE 2-1. WER CHART

It became graphically clear to the entire project team that data, information and/or process problems supporting jobs at the top of the chart would have a multiplying effect due to the dependence of lower level jobs on the chart upon that data, information and/or process. This process established an indirect priority regarding data/information and process deficiencies depending upon the level of the job where deficiencies existed.

An attempt was made to verify the relative significance of jobs within the structure using man-hour expenditures for the various work elements based upon time and attendance charges for 1973. The results are shown in Figure 2-2, Man-Month Expenditures By Work Job Code.

The conclusion drawn from this chart was that there is little correlation between the time devoted to a job and that job's relative position on the WER chart. The effort did show that time expended in management and administration (Work Elements 10, 11 and 12) plus planning (Work Element 22) constitute approximately one-third (31,590) of the expenditure of the Bureau. This fact substantiates the need for an adequate management information system so that personnel can spend more time dealing with the technical aspects of the Bureau mission.

valid goal?

Work Element Code	Bureau of Land Management Work Element Title	Manmonths	
		Planned	Used
10	Managerial	6,659	9,017
11 & 12	Administration and Employee Development	12,499	11,763
20	Inventory and Analysis	2,399	2,347
21	Studies and Research	476	428
22	Planning	2,380	2,045
23	Programming	731	699
24	Evaluation and Revision	692	500
30	Public Affairs Ass't	2,114	2,043
31	Filings	761	913
32	Land Examination	478	840
33	Minerals Investigation	371	409
34	Classifications	57	20
35	Contest and Appeal	107	110
36	Transfers	400	328
37	Timber Cruise and Appraisal	189	174
38	Use Authorization	3,336	3,755
39	Compliance	438	480
40	Use Supervision	934	855
41	Fire Operations	869	23,779 ✓
42 & 43	Cadastral Survey (Office and field)	2,476	2,255
44	Corner Maintenance	83	67
45	Maps and Plats	1,024	953
46	Records Improvement	561	519
47	Aircraft Operations	241	355
49	Reimbursements	1,834	1,819
60	Resource Production	620	96
61	Site Improvement and Protection	450	403
62	Water Development	573	602
63	Water Control	33	32
64	Program Facilities	278	277
70	Construction Survey	751	619
71	Construction Design	708	494
72	Construction Operations	338	324
80	Maintenance	2,707	2,547
		48,837	71,867
			- 23

Source: Program and Cost Report as of 30 June 1973.

48,

FIGURE 2-2

2.2 Job Activity Matrix (JAM) and Data Menus

In order to further understand the Bureau's processes to identify deficiencies, it was necessary to determine specific data categories required to support Bureau jobs. The starting point for this effort was to examine the "BLM Data Utilization (Typical)" Figure 2-3 to identify specific data requirements for accomplishing the Bureau's jobs. A cursory examination of this chart leads one to conclude that most jobs require all categories of data. For example, forestry data is needed for vegetative inventory, water quality and quantity, topography--slope aspect, erosion, allowable cut and depletion, etc. It was concluded from this that even though various jobs appear to require information from the same category of data, the specific data elements are significantly different. Further analysis of the data requirements revealed that data requirements for the various jobs took on a hierarchical structure from the detailed to the general. For example in the vegetation category, there were basic data elements which accrued from a sample. These sample records, when combined and appropriate data elements added, made up a plot/transect record that was somewhat more general than the sample in nature. Further, when plot/transect records were combined and appropriate data elements added, type records evolved. Using this hierarchical structure of data and identifying the data requirements to support BLM jobs, not only by category (forestry, wildlife, etc.) but level (sample, plot/transect, type) it was found that data level requirements within category was indeed valid. By applying this concept of data structure to the various categories of data, 17 menus were developed. The detailed data elements within each record type can be found in Appendix C.

BLM Data Utilization (Typical)

BLM Data Utilization (Typical)													Can Data Be Gathered By Remote Sensing?	Can Data Be Stored Or Manipul. By ADP?	Is Technology Available?		Is BLM Making Use Of Technology?		Baseline System					
Kinds of Data/ Information Needed by BLM Programs**	Forestry	Wildlife	Watershed	Range	Upland & Marine Minerals	Lands & Realty	Recreation	Engineering	Fire Control	Cadastral	E&PC	Admin.			RS	ADP	RS	ADP	NRIS	CS/LR	Tr/RW	S/I	Soc/Econ	
Vegetation Inventory	X	X	X	X		X	X	X	X	X	X		Yes	Yes	Yes	Yes	Im.	No	•					
Soils	X	X	X	X		X	X	X	X		X		Ex. Yes Int. No	Yes	Yes	Yes	Yes	No	No	•				
Water (Qual. Quan. Trends)	X	X	X	X	X	X	X	X	X		X		Some	Yes	Yes	Yes	Im.	No	•					
Topog. Sup. Aspect	X		X	X		X	X	X	X	X	X		Yes	Yes	Yes	Yes	Im.	Im.	•	•	•			
Erosion	X		X	X				X	X		X		Yes	Yes	Yes	Yes	Im.	No	•					
Vegetation Trends	X	X	X	X					X		X		Yes	Yes	Yes	Yes	Im.	No	•	•	•	•		
Land Status	X	X	X	X	X	X	X	X	X	X			No	Yes	N/A	Yes	N/A	No	•					
Habitat Surveys	X	X											N/A	Yes	N/A	Yes	N/A	No	•					
Animal Cut & Depredation	X												N/A	Yes	N/A	Yes	N/A	Yes	•					
Wild Animal Population & Trend		X		X			X				X		Yes*	Yes	No	Yes	No	No	•					
Climatic Data	X	X	X	X		X	X	X	X		X		No	Yes	No	Yes	No	No	•					
Cultural Features/ Land Use				X		X	X	X	X		X		Yes	Yes	Yes	Yes	Im.	No	•	•		•		
Mineral Inventory					X								Some Im.	Yes	Yes	Yes	Im.	No	•	•				
Water Reg. Needs & Supply	X				X	X							No	Yes	N/A	Yes	N/A	No						
Socio-Econ. Data	X				X	X					X		No	Yes	N/A	Yes	N/A	No		•		•		
Bibliography					X								No	Yes	N/A	Yes	N/A	No	•	•	•	•		
Other (Peculiar to Marine Minerals)					X								No	Yes	N/A	Yes	N/A	No	•					
Geology					X	X	X	X			X		Yes	Yes	Yes	Yes	Im.	No	•					
Soils	X	X	X	X			X				X		Some	Yes	Yes	Yes	No	No	•					
Water Use							X	X	X		X		No	Yes	N/A	Yes	N/A	No						
Land Use Rec. I							X	X					Some	Yes	Yes	Yes	No	No	•					
Transportation Needs								X					N/A	Yes	N/A	Yes	N/A	No	•	•		•		
Fire History	X	X	X	X			X		X		X		N/A	Yes	N/A	Yes	N/A	No	•	•	•			
Map Records										X			N/A	Yes	N/A	Yes	N/A	No	•					
Construction (on ground)	X		X	X	X	X	X	X	X	X			Yes	Yes	Yes	Yes	No	No	•	•	•			
Air Qual. & Stds											X		Some	Yes	Yes	Yes	No	No	•			•		
Records Financial/ Personnel, etc.												X	N/A	Yes	N/A	Yes	N/A	Yes	Some					

- * In Example
 ** Not necessarily an exhaustive listing
 NRIS - Natural Resources Information System
 CS/LR - Cadastral Survey Land Records System
 S/I - Stores Inventory System
 Soc/Econ - Social/Economic Data System
 Tr/RW - Transportation/Rights of Way

The menus were developed using as many sources as were available, DSC staffs, current ADP data, manuals and procedures, job products, etc. In order to validate the menus, Job Activity Matrix (JAM) charts were developed. See Figure 2-4. Note that pages 1 and 2 of the JAM charts contain across the top the 17 categories of information contained on the menus. In order to complete the matrix, 49 Work Job Codes were selected from the WER and Job Matrix Model that collectively required every data/information type needed to perform all jobs in the Bureau. Each of these Work Job Codes were then broken down into the specific tasks performed within it using the Work Job Code Handbook. These Work Job Codes and specific tasks within each were listed down the left hand column of the chart. At the intersection of the task and category of data on the chart, the proper level of information, e.g. 1A, 1B, 1C, etc. (see menus) required to perform that task was entered. A tabulation of the occurrences of a level (1A, 1B, 1C, etc) within a column determined whether or not a level within a category had been specified. If a level was not present, an attempt was made to identify a job or jobs wherein it was used. If no jobs required the data/information, the menus were revised as necessary. Through this process five more job codes were selected and the information category and level specified. As a conclusion to this process, the menus were updated to assure that they contained the data elements required to perform the specific tasks within the Bureau's jobs.

Page 3 of the JAM charts was used to specify the sources, types and specific inputs for each job then to identify the outputs from the job and where and how the output products were used. Additional menus were constructed for codes for:

- Source acquisition techniques
 - Remote Collection
 - Field Collection
 - Retrivals
 - Other
- Products (Input, Intermediate and Output)
 - Imagery
 - Graphics
 - Maps
 - Statistics and Tabular
 - Standard Forms
 - Reports
 - Other Mixed Format Records
- Uses
 - Planning and Management
 - Research and Development
 - Construction and Implementation
 - Operations
- Source and Users
 - BLM
 - Other Federal Agencies
 - State and Local Government
 - Public and Civic
 - Commercial
 - Institutional

These codes were used to identify appropriate techniques, products and sources and users as the JAM charts were completed for various job codes.

The completed JAM charts and also blank ones were used during the site survey phase to assist with categorizing comments and problems from interviewed personnel.

Data & Information Types Worksheet		NATURAL RESOURCE					
Activity •Work Element Job •Task Descriptor •Project •System	VEGETATION	SOILS	MINERALS	GEOLOGIC	WATER	WILDLIFE	METEOROLOGIC
240 - Planning-Project Plans (1230/1240/5230)	1A 1B 1C 2A 2B 2C	1A 1B		2A 2B 2C	2A 2B 2C	1A 1B 1C	1A 1B
240 - Planning-Project Plans (1250/5220/9110/9120)	1C 2C	1B 1A		2A 2B 2C	2C	1B 1C 1A	1B

6-II

6-II

FIGURE 2-4

ORR DES	LAND USE/OWNERSHIP								SUPPORT	
	USE AUTHORIZATION	TRANS/ RIGHTS of WAY	RECREATION	SURVEY CONTROL	LAND RECORDS	SOCIAL- DEMOGRAPHIC	ECONOMIC	CULTURAL	ADMINISTRATIVE	MANAGERIAL
2240 30/1240/ 5230)	1A 3D 2A 4D 3A 1F 4A 2F 1D 3F 2D 4F	1A 1B 1C	1A 1B	1	1A 1B 1D 1E	9A 9B 9C 8A 8B 8C	1A-3 1B-3 1C-3	1A 2A		1A
2240 50/5220/ 1110/9120)	1A 4B 2A 1F 3A 2F 4A 3F 1B 4F 2B 3B		1A 1B	1	1A		1A-3 1B-3 1C-3	1A 2A	3 4	1A

II-10

FIGURE 2-4 (Cont.)

DRK DES	INPUTS				OUTPUTS		
	SOURCES		PRODUCTS	PRODUCTION/ LOADING	PRODUCTS	UTILIZATION	
	AGENCY	ACQUISITION TECHNIQUE				USES	USERS
2240 30/1240/ 5230)	A1 B10 B1 C A2 B7 B15 A4 A8 D E B9 B4 A3	A2 B1 B2-1 B2-2 C1 C2 D3	Forest Inventory Soils Type Map Geologic Map USGS Topographic Map Wildlife Habitat Map Climatic Map Grazing Lease Map Mining Claims Map Public Opinion Survey Timber Sale Record Historic & Arch. Site Maps Annual Work Plan A1, B1, B2, F, C, G3, G1-2		Timber Sale Plan F3-15	A D	A1 A2 A3 A8 A9 B9 C E
2240 1250/5220/ 9110/9120)	A1 A2 A4 A8 B9 B10 C F2	A2 B1 B2-1 B2-2 C1 C2	Vegetation Type Map Stores Inventory Property Records C, F, A1, B1, B2, D5, E		Forest Development Plan F3-15	D	A1 A2 A3 B4 B9 A8

FIGURE 2-4 (Cont.)

2.3 Job Code Matrix Model

The Job Code Matrix Model (piano roll), Figure 2-5, was constructed to show jobs in relation to all BLM "activities". Activities were listed across the top with work jobs down the side.

This model was developed to insure that the 49 Work Job Codes selected for the Job Activity Matrix Model analysis adequately covered all BLM activities. However, it was noted that some work jobs were common to only a few activities; others were common to several or many, and a problem encountered in the analysis of the Job Code Matrix Model was the fact that identical tasks are sometimes given different work job numbers and names. For example, enforcement of "contract" provisions is coded under 3853 Use Authorization-Timber Sale in the 1240-Forest Management-Public Domain activity. This same task is coded 4051 Use Supervision-Custodial Management activity. Additional confusion in task description is illustrated by the definition of 4066 Use Supervision-Search and Rescue in activity 1520-Fire Rehabilitation. Following are excerpts from BLM Manual 1634 Work-Job Code Handbook which further illustrates this situation.

*code
structure
problem*

Work Job Code	Descriptor	Lands and Records Mgmt. Alaska Pipeline Wild Rivers Land Acquisition	Minerals Mgmt.	Range Mgmt.	Forest Mgmt.	Forest Dev. Restoration Damage Timber Lands	Soil and Watershed Range Im- provements	Protection	Aircraft Operations	Recreation Mgmt.	Wildlife Mgmt.	Cadastral Survey	Fire Strength of Force	Fire Fighting	Fire Rehab.	General Admin.	Program Services	Reim- bursable	Bldg. and Recreation Construc- tion	Bldg.-Road Recreation Mainte- nance	Road Construc- tion	Con- tributed Funds	Surface Reclama- tion Mineral Areas	Blister Rust and Forest Pest Control
		1 2 1 1 1 2 1 5 9 4 0 0	1 2 1 2	1 2 2 0	1 2 3 0 1 2 4 0 5 2 3 0	1 2 5 0 5 2 2 0 9 1 1 0 9 1 2 0	1 2 6 0 8 1 0 0 8 2 0 0	1 2 7 0 5 2 1 0	1 2 7 5	1 2 8 0	1 2 8 5 7 1 1 0	1 4 0 0 7 2 0 0 7 3 0 0 9 8 0 0	1 5 1 1	1 5 1 2	1 5 2 0	1 6 0 0	1 7 0 0	1 9 1 0 1 9 2 0 2 9 0 0 3 9 0 0 5 9 0 0 8 9 0 0	2 1 1 0 2 1 2 0 5 1 2 0	2 2 1 0 2 2 2 0 2 2 3 0 5 3 1 0 5 3 2 0 9 1 3 0 9 1 4 0	3 1 0 0	7 1 0 0	9 1 5 0 9 1 6 0	9 6 0 0 9 7 0 0
0100	Stores																							
0200	Capital Equipment																							
0400	Major Non-Capital Equipment																							
0600	Fixed Costs																							
0700	Personnel Transportation Costs																							
1010	Managerial - Executive Director																							
1011	Staff Support																							
1012	Program Coordination						1 2 6 0																	
1013	Program Evaluation																							
1114	Admin. Support - General Clerical				5 2 3 0	5 2 2 0		5 2 1 0											5 1 2 0	5310-5320	5 1 1 0			
1115	Technical Clerical																							
1216	Employee Development - Training						1 2 6 0				1 2 8 5													
1217	Safety Training																							
2024	Inventory and Analysis - Hazard Inventory																		2120-5120					
2025	Resource Inventory						1 2 6 0																	
2027	Protractions																							
2028	Unit Resource Analysis						1 2 6 0				1 2 8 5													
2029	Mgmt. Profile																							
2130	Studies and Research - Resource Study						1 2 6 0																	
2131	Impact Studies																							
2132	Interpretive Studies																							
2134	River Basin Studies																							
2135	Pilot Studies																							
2136	Cooperative Research						1 2 6 0																	
2237	Planning - Program Guides																							
2238	Mgmt. Framework Plan						1 2 6 0				1 2 8 5													
2239	Program Activity Plan						1 2 6 0																	
2240	Project Plan																							
2281	Communications Plan																							
2341	Programming - A. W. P.				5 2 3 0	5 2 2 0		5 2 1 0																
2342	Program Packages																							
2425	Evaluation and Revision - Resource Inventory																							
2430	Resource Studies																							
2439	Program Activity Plan						1 2 6 0																	
3001	Public Affairs and Assist. - Information and Education						1 2 6 0				1 2 8 5													
3002	Congress Inquiries and Reports						1 2 6 0				1 2 8 5													
3004	Status and Notation	1211-1215																						
3005	Reproduction																							
3006	E. I. S. Review	1211-1215					1 2 6 0				1 2 8 5							1 9 1 0						
3111	Filings - Land Cases	1211-1215																						
3112	Mineral Cases																							
3213	Land Examination - Occupancy																							
3214	Agriculture																							
3215	Public Sale																							
3216	Exchanges																							
3217	Selections																							
3218	Recreation and Public Purpose																							
3219	Other - N. E. S.																							
3220	Rights of Way																							
3221	S. L. U. P.																							
3222	Withdrawal and Revocation																							
3313	Mineral Investment - Occupancy																							
3314	Agriculture																							
3315	Public Sale																							
3316	Exchanges																							
3317	Selections																							
3318	Recreation and Public Purposes																							
3319	Other - N. E. S.																							
3320	Rights of Way																							

FIGURE 2-5. JOB CODE MATRIX MODEL
(PIANO ROLL)

Work Job Code	Descriptor	Lands and Records Mgmt. Alaska Pipeline Wild Rivers Land Acquisition	Minerals Mgmt.	Range Mgmt.	Forest Mgmt.	Forest Dev. Restoration Damage Timber Lands	Soil and Watershed Range Im- provements	Protection	Aircraft Operations	Recreation Mgmt.	Wildlife Mgmt.	Cadastral Survey	Fire Strength of Force	Fire Fighting	Fire Rehab.	General Admin.	Program Services	Reim- bursable	Bldg. and Recreation Construc- tion	Bldg.-Road Recreation Mainte- nance	Road Construc- tion	Con- tributed Funds	Surface Reclama- tion Mineral Areas	Blister Rust and Forest Pest Control
		1 2 1 1 1 2 1 5 9 4 0 0			1 2 3 0 1 2 4 0 5 2 3 0	1 2 5 0 5 2 2 0 9 1 1 0 9 1 2 0	1 2 6 0 8 1 0 0 8 2 0 0	1 2 7 0 5 2 1 0	1 2 7 5	1 2 8 0	1 2 8 5 7 1 1 0	1 4 0 0 7 2 0 0 7 3 0 0 9 8 0 0	1 5 1 1	1 5 1 2	1 5 2 0	1 6 0 0	1 7 0 0	1 9 1 0 1 9 2 0 2 9 0 0 3 9 0 0 5 9 0 0 8 9 0 0	2 2 1 0 2 2 2 0 2 2 3 0 5 3 1 0 5 3 2 0 2 1 2 0 5 1 2 0	2 2 1 0 2 2 2 0 2 2 3 0 5 3 1 0 5 3 2 0 9 1 3 0 9 1 4 0	3 1 0 0 5 1 1 0	7 1 0 0	9 1 5 0 9 1 6 0	9 6 0 0 9 7 0 0
4 2 6 8	Cadastral Surveys – Office Lands Support		1 2 1 2	1 2 2 0	5 2 3 0	9 1 2 0	8 2 0 0	5 2 1 0	1 2 7 5	1 2 8 0	7 1 1 0	9 8 0 0	1 5 1 1	1 5 1 2	1 5 2 0	1 6 0 0	1 7 0 0	8 9 0 0	5 1 2 0	9 1 4 0	5 1 1 0	7 1 0 0	9 1 6 0	9 7 0 0
4 2 6 9	Minerals Support																							
4 2 7 0	Range Support																							
4 2 7 1	Forest Support																							
4 2 7 2	Watershed Support																							
4 2 7 3	Recreation Support																							
4 2 7 4	Wildlife Support																							
4 2 7 5	Roads and Trails Support																							
4 2 7 6	Public Demand, Cadastral																							
4 3 6 8	Cadastral Survey Field – Lands																							
4 3 6 9	Minerals																							
4 3 7 0	Range																							
4 3 7 1	Forestry																							
4 3 7 2	Watershed																							
4 3 7 3	Recreation																							
4 3 7 4	Wildlife																							
4 3 7 5	Roads and Trails																							
4 3 7 6	Public Demand																							
4 4 7 7	Corner Maintenance – Office Review																							
4 4 7 8	Location Reconnaissance																							
4 4 7 9	Remonumentation																							
4 5 4 6	Maps and Plats – Access Acquisition																							
4 5 8 0	Survey Plats																							
4 5 8 1	Supplemental Plats																							
4 5 8 2	Construction Drawings																							
4 5 8 3	Resource Maps																							
4 5 8 4	Basic Series Maps																							
4 5 8 5	General Cartography																							
4 6 8 6	Records Improvement – Data Assembly	1211-1215																						
4 6 8 7	Abstracting																							
4 6 8 8	MT Record Completion																							
4 6 8 9	Microfilming																							
4 7 9 0	Aircraft Operations – Flight Activities																							
4 7 9 1	Avionics Maintenance																							
4 7 9 2	Airframe Maintenance																							
4 7 9 3	Engine Maintenance																							
4 7 9 4	Taxes, Lease, Rental																							
4 7 9 8	Accident																							
4 7 9 9	Other																							
4 9 0 7	Reimbursable – Resources																	1 9 2 0						
4 9 0 8	Cadastral Survey																	1 9 2 0						
4 9 0 9	Program Services																	1 9 2 0						
4 9 1 0	No-Year Appropriations																	2 0 0 3 0 0						
6 0 0 1	Resource Production – Revegetation Chemical																							
6 0 0 2	Revegetation Mechanical																							
6 0 0 3	Revegetation Burning																							
6 0 0 4	Seeding and Planting																							
6 0 1 0	Waterfowl Habitat																							
6 0 1 1	Stream Fish Habitat																							
6 0 1 2	Lakefish Habitat																							
6 0 1 4	Tree Planting and Seeding																							
6 0 1 5	Stand Improvement																							
6 0 1 6	Tree Improvement																							
6 1 0 1	Site Improvement and Protection – Revegetation Chemical																							
6 1 0 2	Revegetation Mechanical																							
6 1 0 3	Revegetation Burning																							
6 1 0 4	Seeding and Planting																							
6 1 0 5	Watershed Tillage																							
6 1 1 7	Timber Site																							
6 1 1 8	Pest Control																							

FIGURE 2-5. JOB CODE MATRIX MODEL
(PIANO ROLL)

Work Job Code	Descriptor	Lands and Records Mgmt. Alaska Pipeline Wild Rivers Land Acquisition	Minerals Mgmt.	Range Mgmt.	Forest Mgmt.	Forest Dev. Restoration Damage Timber Lands	Soil and Watershed Range Im- provements	Protection	Aircraft Operations	Recreation Mgmt.	Wildlife Mgmt.	Cadastral Survey	Fire Strength of Force	Fire Fighting	Fire Rehab.	General Admin.	Program Services	Reim- bursable	Bldg. and Recreation Construc- tion	Bldg.-Road Recreation Mainte- nance	Road Construc- tion	Con- tributed Funds	Surface Reclama- tion Mineral Areas	Blister Rust and Forest Pest Control
		1 2 1 1 1 2 1 5 9 4 0 0			1 2 3 0 1 2 4 0 5 2 3 0	1 2 5 0 5 2 2 0 9 1 1 0 9 1 2 0	1 2 6 0 8 1 0 0 8 2 0 0	1 2 7 0 5 2 1 0	1 2 7 5 1 2 8 0		1 2 8 5 7 1 1 0	1 4 0 0 7 2 0 0 7 3 0 0 9 8 0 0	1 5 1 1	1 5 1 2	1 5 2 0	1 6 0 0	1 7 0 0	1 9 1 0 1 9 2 0 2 9 0 0 3 9 0 0 5 9 0 0 8 9 0 0	2 2 1 0 2 2 2 0 2 2 3 0 5 3 1 0 5 3 2 0 2 1 1 0 2 1 2 0 5 1 2 0	2 2 1 0 2 2 2 0 2 2 3 0 5 3 1 0 5 3 2 0 9 1 3 0 9 1 4 0	3 1 0 0 5 1 1 0	7 1 0 0	9 1 5 0 9 1 6 0	9 6 0 0 9 7 0 0
6 1 1 9	Fire Breaks		1 2 1 2	1 2 2 0																				
6 1 2 0	Fire Hazard Reduction																							
6 1 2 1	Antiquities Protection																							
6 1 2 2	Cleanup																		2120-5120					
6 1 2 3	Public Safety Hazards																			2220-5320				
6 1 2 4	Restoration																		2120-5120					
6 2 4 1	Water Development – Reservoirs																							
6 2 4 2	Springs																							
6 2 4 3	Wells																							
6 2 4 4	Supplemental Water Facilities																							
6 2 4 5	Water Catchments																							
6 3 4 6	Water Control – Detention Diversion																							
6 3 4 7	Dikes and Other						1 2 6 0																	
6 4 4 8	Program Facilities – Fences, Enclosures and Exlosures						1 2 6 0																	
6 4 4 9	Cattle Guards and Passes																							
6 4 5 0	Signs																							
6 4 5 1	Temporary Fire Facilities																							
6 4 7 5	Trails																							
7 0 7 0	Construction Survey – Buildings																							
7 0 7 1	Yards																		2 2 1 0					
7 0 7 2	Recreation Sites																		2 2 1 0					
7 0 7 3	Road																		2120-5120					
7 0 7 5	Trails																							
7 0 7 6	Bridges																							
7 1 7 0	Construction Design – Buildings																							
7 1 7 1	Yards																		2 1 1 0					
7 1 7 2	Recreation Sites																		2 1 1 0					
7 1 7 3	Road Grading																		2120-5120					
7 1 7 4	Road Surfacing																							
7 1 7 5	Trails																							
7 1 7 6	Bridges																							
7 2 7 0	Construction Operations – Buildings																		2 1 1 0					
7 2 7 1	Yards																		2 1 1 0					
7 2 7 2	Recreation Sites																		2120-5120					
7 2 7 3	Road Grading																							
7 2 7 4	Road Surfacing																							
7 2 7 5	Trails																							
7 2 7 6	Bridges																							
8 0 1 9	Maintenance – Fire Breaks																							
8 0 4 8	Fences, Enclosures and Exlosures																							
8 0 4 9	Cattle Guards and Passes																							
8 0 5 0	Signs																							
8 0 7 0	Buildings																							
8 0 7 1	Yards																		2 2 1 0					
8 0 7 2	Recreation Sites																		2 2 1 0					
8 0 7 3	Roads, Unsurfaced																		2220-5320					
8 0 7 4	Roads, Surfaced																		2220-5320					
8 0 7 5	Trails																		2220-5320					
8 0 7 6	Bridges																		2220-5320					
8 0 7 7	Water Control Structures						1 2 6 0												8130-8140					
8 0 7 8	Water Developments																							
8 0 7 9	Land Treatment																							
8 0 8 0	Equipment and Tools																							
8 0 8 1	Communications																		5 3 1 0					

FIGURE 2-5. JOB CODE MATRIX MODEL
(PIANO ROLL)

<u>Activity</u>	<u>Work Job Code</u>	<u>Definition</u> (Key Words Underlined)
1211 Lands and Records Management	3911 Compliance- Lands Cases	Includes cost and time required to perform the necessary <u>compliance</u> and <u>supervision</u> work for any of the lands cases. Includes all work on a case after the grant, lease, title document or other use authorization is issued. Examples of <u>proofs</u> of construction and <u>reappraisal</u> of rights-of-ways, <u>compliance checks</u> on R&PP lease areas, <u>inspections</u> to determine compliance with permit stipulations or <u>inspections</u> of title transfer areas where a reversionary clause is involved. Report progress when the compliance check has been completed, the necessary reports have been prepared.
1220 Range Management	4051 <u>Use Supervision-</u> Custodial Management	Included cost and time spent on work involved in making on-the-ground range use <u>inspections</u> of range areas not yet covered by AMP's. In addition to associated office work, includes time spent on general allotment visits, <u>livestock counts</u> of a general nature not connected with actual use studies or trespass action, <u>inspection</u> of trailing use, and seasonal movement of livestock to assure <u>conformance</u> with authorized use.
	4065 Use Supervision- Management Plans	4065-Includes cost and time spent making on-the-ground <u>inspections</u> of range areas included in approved AMP's. Also includes user contacts. (See WJC's 2430 and 2439 for evaluation and revision work.) Report one unit per fiscal year for each AMP <u>supervised</u> to prescribed standards.
1240 Forest Management-P.D.	3853 Use Authorization- Timber Sales	Includes cost and time spent in the <u>administration</u> of timber sale <u>contracts</u> .
1520 Fire Rehabilitation	4066 <u>Use Supervision-</u> Search and Rescue	Includes cost and time spent and cost incurred resulting from operating or participating in a search and rescue operation.

<u>Activity</u>	<u>Work Job Code</u>	<u>Definition</u> <u>(Key Words Underlined)</u>
2220;5320 Recreation Facilities Operation and Main- tenance-P.D., Operation and Main- tenance, Recreation Facilities-W. Ore.	4064 Use Supervision- Recreation Operations	Includes cost and time spent in the day-to-day operation of developed recreation sites. Includes such work as cleaning and resupplying rest rooms, garbage pickup, entrance station operations, <u>site patrol</u> . Includes both force account operations or the preparation and <u>administration of operation contracts</u> . Report progress based on effective effort during the reporting period. Example: 100 family units operated during 10 reporting periods could be reported as 10 each period or all units could be reported at the end of the operational period.
8100 Range Improvement- Public Lands	3849 Use Authorizations- Section 4 and 15 Permits	Includes cost and time required to complete all work on private permits (Section 4 & 15, O. and C. and Alaska except for maintenance inspections.) Includes such work as permit issuance, assignments, job location on the ground, <u>compliance checks</u> for minimum construction standards, <u>field checks</u> , and office work on abandonments. Report progress when the permit is issued for new jobs and all work is completed on assignments.

3.0 QUESTIONNAIRE DESIGN AND INTERVIEW FORMAT

The primary concerns of the team regarding the interviews were that:

- an interview approach be developed to efficiently collect comprehensive information from a site on data and process needs and deficiencies within the period allotted.
- our questioning techniques should provide no pre-bias of the personnel being interviewed.
- the resulting data gathered by various teams be compatible and comparable.

The initial approach to the interview was to discuss in detail selected BLM function by Work Job Code such as inventory, material sales, timber sales, URA, etc., defining all input products, processes and output products for each function. This was to be followed by a discussion of these functions identifying data and process needs and deficiencies.

A trial of this technique using BLM team members disclosed that:

- it was impossible to keep the discussion within one WJC. The complex BLM situation is ~~due to~~ *reflected by* the close interaction of job codes. **VILEVERSA**
- an office could not possibly be surveyed in the targeted 2-1/2 days but would consume 5 days which would have:
 - resulted in a loss of interest by participants.
 - significantly impacted office schedules and work-loads.
- Work Job Code definitions are not consistent between activities.

After considerable discussion it was concluded that the open-ended questioning approach, where the respondent is encouraged to talk freely,

would be the most effective approach of meeting one of the major objectives of the site surveys, that of identifying data and process needs and deficiencies. The open-ended style of questioning would allow the site office personnel to discuss freely their areas of primary concern and with a minimal amount of prompting, identify specific problems. It was realized at this time that comments would be received that had no bearing on the objectives of this study. These comments would be noted, primarily not to discourage the participation of personnel at the office being surveyed and also because random comments from individual sites that may seem to have no bearing on the study, when assembled could point out symptoms of real problems which are within the scope of the study. The interviewer would insure that a minimal amount of time was expended on these comments.

3.1 Strategic Planning Questionnaire and Guidelines

Guidelines were developed for the conduct of the interview for use by all team members to:

- insure the collection of compatible and comparable data;
- assist the interviewer in conducting the survey;
- gather specific information items on inventory of equipment, remote sensing information and loading probabilities ?

The questionnaire was divided into three parts. A discussion of these parts follows.

Part I - Site Description.

This section was used to note the location of the office being visited and to obtain a list of participants, their activity and phone numbers if future contact is required.

*These should
keep on file
for future contacts*

Part II - Guidelines for Determining Deficiencies in Data and/or Processes.

This section outlined in five (5) steps the major part of the site survey interview. Each step listed suggestions in technique and specific questions that could be used by the interviewer as "memory joggers" to insure that he or she is steering the meeting to the fulfillment of the objectives.

Part III - Equipment.

This section was divided into four categories and contained specific questions to be asked.

- The first category addressed itself to Automated Data Processing (ADP) and was designed to determine if any ADP was owned and/or used by the office. If that was the case, information was gathered as to make, model, owner and present and projected use of the computer systems.
- The second category was designed to gather information on remote sensing equipment, use and desires.
- The third category was to inventory the data transmission capabilities such as teletype, at the offices and to list current uses.
- The fourth category was to inventory document storage capabilities (microfilm, microfiche, etc.) and inquire as to the adequacy of these capabilities.

*where is
this list?*

An addendum to the Strategic Planning Questionnaire addressed the area of loading (data volume requirements). The information desired here would be required in the sizing of an Automated Data Processing *Hardware* System. Prior to survey, BLM members of the team discussed loading probability with their colleagues at the Denver Service Center and arrived at estimates based on the experience and judgment of the area specialists. The estimates covered natural resources, use authorization, recreation, cultural, transportation/rights-of-way, and survey control. These estimates would be verified as part of the site survey.

A copy of the Strategic Planning Questionnaire is contained in Appendix A.

3.2 Interview Format

The format of the interview was to ask for and list the major jobs at the office being interviewed. This was followed by a discussion of each job, defining problems that exist. It was expected that similar deficiencies would appear in different jobs because of the dependence of the Work Elements as shown in the Work Element Relationship Chart (see Figure 2-1). The team members at the conclusion of the initial session would list all identified problems under the 17 data categories in the Job Activity Matrix (JAM) Chart, pages 1 and 2 (see Figure 2-4) including the jobs the problem applied to. The JAM Chart information was then reviewed with the office participants to insure that no misinterpretation had occurred, and that all problems were recorded. Classification

of the comments into the JAM categories would also allow ease of data reduction.

Additional data would be gathered at this point to establish job priorities, equipment available, remote sensing use and loading as per sections III and IV of the Strategic Plan Questionnaire. At the conclusion of the interview session the site manager would be asked for his priorities as to jobs applied to his mission and to forecast any changes in workload emphasis in the next several years.

3.3 Test Interviews

The finalized interview technique and questionnaire format was tested using Denver Service Center personnel possessing significant field experience. The staffs represented were Automatic Data Processing, Financial Management, Lands, Watershed, Minerals and Access and Transportation Rights-of Way (ATROW). These personnel were asked to and did simulate a typical district office staff.

The problem noted in the test interview was the lack of experience and confidence on the part of the interviewers. Each team was allowed sufficient time interviewing the personnel from the Denver Service Center to overcome these limitations prior to the initiation of the pilot surveys.

4.0 SITE SELECTION AND TEAM ASSIGNMENTS

4.1 Site Selection

The Bureau of Land Management members of the Strategic Plan team being familiar with the characteristics of the various offices met as a group to select offices which on the whole would be representative of the jobs that are performed in BLM.

It was determined that since there were only eleven state offices that the time available would allow an interview with each state office. Further, in many cases sites such as Anchorage, Boise, Phoenix, Billings and Santa Fe, other important offices are located nearby so that an interview team could contact multiple offices with one trip.

Because of the importance to energy crisis solutions and unique requirements related to oil and gas and mineral leasing attached to Outer Continental Shelf offices, three out of four were selected for interview. The New York office was not picked because of its early stage of development.

Although most districts have substantially the same jobs to perform, most contain varying amounts of emphasis on certain programs which tends to give a unique character to that district. The team tried to assure that this uniqueness would not be overlooked.

A complete listing of all districts was made and then a selection based upon the BLM members' experience was made. This selection attempted to make sure that each type of district would be interviewed or would be represented by another district or group of districts.

Examples of the selection rationale were as follows:

- Ely District was selected to represent districts devoting a great deal of effort to grazing management and not having major urban impacts.
- Casper District was nominated for unique problems associated with coal.
- Durango was nominated because of its remote area status.

This list of nominations is shown in Figure 4-1 along with a brief statement of the rationale for nomination. The list containing 46 districts was found to be too large for the time available for site interview.

It was necessary to further condense this list to 14 districts or area offices in order to complete the survey in a timely manner still attempting to insure that each district would itself be interviewed or represented. The final selection is shown on the table "Project Survey Sites" (Figure 4-2). All of the sites listed were ultimately surveyed except for Yuma for which the Phoenix District was substituted at the request of Arizona state office personnel so as not to work a hardship on Yuma District personnel. (The Billings District was interviewed only for wild horse information.) The team felt that the final site interview list maintained the objective of adequate coverage for all significant BLM jobs.

A table showing the final selection of districts indicating the minimum of unique program coverage is shown in the District Character Selection Matrix (Figure 4-3).

INITIAL SITE SELECTION LIST

<u>LOCATION</u>	<u>STATE OFFICE</u>	<u>DISTRICT OFFICE</u>	<u>SPECIAL OFFICE</u>	<u>UNIQUE SUBJECT</u>
Anchorage	X	X	OCS	Native Claims, ADP, Wilderness, Fire
Fairbanks		X		Oil Pipeline Wilderness, Fire, Native Claims, Wildlife
Phoenix	X	X		Urban, Recreation
Safford		X		Rural Southwest.
Yuma		X		Recreation
Sacramento	X			
Bakersfield		X	Bishop	Remote Area Office
Riverside		X		Desert lands, Recrea- tion, Cultural, Socio- Economic
Los Angeles			OCS	
Folsom		X		Mining, Socio-Economic
Susanville		X		Remote Sensing, Fire Control, Forestry
Ukiah		X		Timber
Denver	X		DSC	ADP, Personnel, Finance, Standards & Technology, Research, etc.
Durango		X		Remote Area Office, Archeological
Canon City		X		
Craig		X		Oil Shale, Minerals, Rural, Wildlife
Montrose		X		Planning, Recreation, Wildlife, Archeology
Grand Junction		X		Oil Shale, Grazing, Wild Horses

Figure 4-1

<u>LOCATION</u>	<u>STATE OFFICE</u>	<u>DISTRICT OFFICE</u>	<u>SPECIAL OFFICE</u>	<u>UNIQUE SUBJECT</u>
Boise	X	X	BIFC	Remote Sensing (SO), Fire, Land Classifica- tion (DLE)
Billings	X	X		Wild Horses
Miles City	X	X	Dickinson	Coal, Project Office, Detached Offices, Watershed, Minerals, Range, Soc., EMARS
Dillon		X		Rural, Grazing, Wildlife
Reno	X			
Carson City		X		Offsite Urban Impact
Las Vegas		X		Socio-Economic
Ely		X		Range, Watershed, Rural
Winnemucca		X		Range
Elko		X		Fire
Santa Fe	X			
Farmington		X		Oil and Gas
Albuquerque		X		Minerals, Watershed, Indian Claims
Salt Lake City	X			
Richfield		X		Archeology
Cedar City		X		Rural, Grazing
Cheyenne	X			MAP-MYP
Casper		X		Coal, Oil and Gas, Minerals, Socio- Economic Analysis
Rawlins		X		MAP-MYP
Rock Springs		X		Socio-Economic

<u>LOCATION</u>	<u>STATE OFFICE</u>	<u>DISTRICT OFFICE</u>	<u>SPECIAL OFFICE</u>	<u>UNIQUE SUBJECT</u>
Lander		X		Planning, Multiplicity of Recreation, Detached Area Office, Wildlife
Malta		X		Grazing, Wildlife
Salem		X		Recreation, Timber
Coos Bay		X		Timber
Eugene		X		Map Model, O&C, Roads
Portland	X			
Spokane		X		Forestry
Shoshone		X		Fire

<u>OFFICES SELECTED</u>		<u>TEAM ASSIGNED</u>					
		A	B	C	D	E	F
Washington	Headquarters						X
Denver Service Center		X	X	X	X	X	
Alaska	State Office					X	
Alaska	OCS					X	
Anchorage	District Office					X	
Arizona	State Office						X
Pheonix	District Office						X
California	State Office				X		
Los Angeles	OCS	X					
Riverside	District Office	X					
Susanville	District Office				X		
Colorado	State Office			X	X	X	
Craig	District Office				X	X	X
Montrose	District Office	X	X				
Idaho	State Office						X
Boise	BIFC						X
Boise	District Office						X
New Orleans	OCS	X					
Eastern	State Office			X			
Montana	State Office					X	
Miles City	District Office					X	
Billings	District Office					X	
Nevada	State Office					X	
Ely	District Office	X					
New Mexico	State Office				X		
Albuquerque	District Office				X		
Oregon	State Office				X		
Eugene	District Office				X		
Utah	State Office	X					
Wyoming	State Office						X
Casper	District Office					X	
Lander	Resource Area					X	

PROJECT SURVEY SITES

FIGURE 4-2

	ADP	Remote Sensing	Rural District	Urban District	Remote Area	Planning	Native Claims	Land Classification	Indian Claims	Access and Roads	Coal	Oil Shale	Oil and Gas	Minerals	Recreation	Wilderness	Desert Lands	Fire Control	Forestry	Archeological	Wildlife	Grazing Mgt	Wild Horses	Watershed	O&C District	Socio Economic Analysis
Anchorage	x						x									x		x								
Phoenix				x											x		x									
Riverside								x							x		x			x						x
Susanville		x																x	x							
Craig			x									x		x							x					
Montrose						x									x					x	x					
Boise								x										x								
Miles City					x						x			x								x		x		
Billings																							x			
Ely			x											x								x		x		
Albuquerque				x					x					x										x		
Eugene	x									x									x						x	
Casper											x		x	x												x
Lander					x	x									x						x					

DISTRICT CHARACTER SELECTION MATRIX
FIGURE 4-3

No attempt was made to rate one district above another as being the best representative. For instance, Dillon, Montana could have been picked to assure range input as well as Ely but final selection where two similar representatives were concerned was based on:

- A varied geographic distribution of sites (cover as many states as possible).
- Save as much time and travel expense as reasonable.
- Cover all unique programs or activities
- Not to unnecessarily burden any office engaged in a crisis program.

4.2 Team Selections and Assignments

Six teams were established for the conduct of the site surveys, each team composed of one BLM and one IBM member. This pairing was done to insure that each team would be knowledgeable in Bureau operations, information collection methodology, systems concepts and data handling techniques. In some areas, such as remote sensing, it was felt a substantial amount of the interview would be spent discussing specialized subjects at offices such as Susanville and Montana where activity in this area is significant. To most effectively use the experience and knowledge of both the IBM and BLM team members, personnel with similar skills were paired and assigned to visit those offices. The other criteria used in assigning teams to the selected offices were to minimize the travel involved and to insure site and personnel availability. The final team assignments to BLM sites are shown in Figure 4-2. The team composition is listed in Figure 4-4.

TEAM COMPOSITION

Team A	G. Porter IBM D. Calhoun BLM
Team B	D. Soltis IBM G. Bentley BLM
Team C	J. Heibert IBM S. Smith BLM
Team D	R. Fietkiewicz IBM W. Calycomb BLM
Team E	M. Hideshima BLM J. Pettinger IBM R. Kerr BLM
Team F	J. Linne BLM D. Thomas IBM

FIGURE 4-4

5.0 PILOT SURVEYS

The purpose of the pilot surveys was to insure that the interview techniques developed would result in the accumulation of the desired data within a defined time constraint.

Discussion was to focus on data and processing needs and deficiencies and significant problem areas. In addition, the survey was to test the structure and technique for insuring consistent and compatible results from the various teams regardless of interview location (Craig vs. Montrose).

Previous discussions with the Colorado State Director's office indicated a cooperative attitude toward the project. Because of the convenience of distance from Denver and because of Colorado's cooperative attitude, it was decided to analyze Colorado districts to see if representative pilot districts were available. The Montrose District is a well rounded surface management district containing significant timber management, an abundance of wildlife habitat of statewide as well as national importance, outstanding outdoor recreation values and the headwaters of several major rivers (Gunnison, Animas and Rio Grande). The Craig District in addition to being an exceptional grazing district and having many of the attributes of the Montrose District also had major programs of oil and mineral extraction (oil and gas, oil shale and some coal).

5.1 District Office Pilot Survey

The study team was divided into two groups. One visited the Craig, Colorado District Office, the other, the Montrose, Colorado District Office during the week of August 12, 1974.

On each of the teams, one member was designated as the interviewer and the remaining team members observed and supported the interviewer by taking down comments and asking questions that might be missed by the interviewer. Both pilot district offices responded well by having a good mixture of personnel available for the interviews.

The pilot district participants seemed eager to discuss needs and problems and made a concerted effort to have key personnel in the discussion. This proved true at almost all site interview locations later visited. The format of the questionnaire described in Section 3 of this Phase I report was used. The first question asked was, "What are your major jobs?" These were listed without detailed discussion. After the complete list of major jobs was made (usually 15 to 25 jobs) the interviewer returned to each job and led a detailed discussion on it noting information and systems needs and problem area comments from the district staff.

This procedure generally terminated about the end of the first day or beginning of the second morning. During the evening or at lunch time, the comments made by the participants were grouped under

one of the data set categories in the Job Activity Matrix Chart (Figure 2-4). After all comments were written under a data category, the group reassembled during the second day and their comments were reiterated to them for accuracy, i.e., to make sure that recorders had the proper understanding and that all problems were recorded.

It was reaffirmed at this point that it would not be practical to diagram the deficiency or problem comments onto the Job Activity Matrix charts for analysis because the work job code definitions were not consistent from activity to activity and similar tasks were sometimes given different job numbers and names. In addition, charting of each comment (79 major comments at Montrose) on a JAM chart would be extremely time consuming and impractical with available time. This procedure was not used but the development of BLM work functions into common groupings and insertion of comments was later substituted in the Site Survey and Analysis Phase for this procedure.

A discussion concerning the possible amounts of data that might need storage (loading) was held with site representatives. For example, to obtain meaningful soils information two samples per section would be required. These were gross estimates considering needs of all activities at the site.

A discussion with the District Manager concerning present (as per major jobs listed) and future priorities was recorded.

The survey was concluded by grouping remarks on remote sensing and making an ADP and remote sensing equipment inventory at the site.

This was later verified by correspondence.

The whole procedure took 1-1/2 days at Craig and 2 days at Montrose.

The sessions were completed well within the allotted time and proved effective in the collection of the desired information from the district staffs.

5.2 State Office Pilot Surveys

The Colorado State Office was selected for the pilot survey because of the need to test the questionnaire format on a state office as well as a district office, the State Director's expression of cooperation, and its proximity to this study group headquarters at the Kipling Inn in Denver. It was anticipated that because of larger geographic jurisdictional coverage of state offices vs. district offices that state offices would have more similar operations and problems than districts. It was therefore felt that perhaps with the exception of Eastern States Office or Alaska State Office that any other state office would be representative of the majority so far as the pilot survey is concerned.

A team of two was assigned as interviewers and the Colorado State Office was visited from August 20 through August 21, 1974. All state office divisions were represented during the survey.

It became evident that the survey approach, planned and used in the pilot district offices, had to be modified for the state offices. District office workload requires constant interaction between the functional staffs, therefore the district interviewed needed to:

- have all staffs represented during the entire interview
- allow problem discussions to cross job areas

State office workload and responsibilities indicated much clearer distinction between operational staffs. Our pilot survey showed that problem discussions did not cross functional areas, therefore interviews by functional area were more practical.

During the survey review, six state variances to the Strategic Planning Questionnaire survey approach were added (see Appendix B).

These are:

1. Identify major workload items by division with the entire group. These items should be identifiable in the BLM Work Job Handbook.
2. Discuss each major workload item with the appropriate division, dismissing other divisions.
3. Cover volume and frequency factors with each division. State Director and Associate Director should stay if possible.

4. Reconvene entire group for JAM Chart summary.
5. Conduct equipment survey with Chief of Management Services.
6. Close out with State or Associate Director and get job priorities. (Percentages of workload are not required.)

5.4 Conclusions

The results of the three pilot surveys were so successful that it was decided to include for analysis the information gathered from these sites along with that to be gathered from the remaining offices to be visited. This was not the original intent.

6.0 CONCLUSIONS

The objectives of the Phase I, Planning and Coordination, was to identify offices to be surveyed, develop a survey schedule, develop a questionnaire, develop interview procedures and conduct and analyze a pilot survey.

A review by the team members of the progress thus far resulted in the following conclusions:

- The team had evolved into an integral unit. The IBM team personnel during this time frame had acquired sufficient knowledge of BLM operations to effectively proceed in the future phases of the project. The BLM team members acquired general concepts of data handling and automation techniques and understood the types of information required for applying ADP support to the Bureau.
- The interview technique for the site survey, being tried and tested, in both the trial interviews and pilot surveys, were the correct approach to be used and the team personnel were well prepared for conduct of the site surveys.

- The sites selected for the interviews adequately represented all BLM jobs and situations
- Many charts and models such as the WER and JAM charts will be invaluable in future phases of this study as well as being of interest and use to Bureau personnel not directly associated with the project.
- That all of the Phase I objectives have been met.

BUREAU OF
LAND
MANAGEMENT

STRATEGIC
PLANNING
QUESTIONNAIRE

30 JULY 74
REVISED 7 AUGUST 74

APPENDIX A

PART I - SITE DESCRIPTION

Date: _____

Location: _____

State: _____

	Contact: _____	Activity: _____	Phone: _____
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____
9	_____	_____	_____
10	_____	_____	_____

II. GUIDELINES FOR DETERMINING DEFICIENCIES IN DATA AND/OR PROCESSES

STEP 1.

Questioning to determine major workload items. Limit discussion to major items only.

QUESTION: (Place at top of flip chart)

WHAT IS YOUR MAJOR WORKLOAD?

Record major jobs on flip chart:

MAJOR JOB #1 - Annotate specific problem(s) if mentioned.

MAJOR JOB #2 - Annotate specific problem(s) if mentioned.

ETC.

When all major jobs have been isolated, tear off flip chart and tape to the wall or use a separate flip chart to break out details of each job.

STEP 2.

Questioning for the specific problems or cause(s) of problems.

Copy first major job area onto blank flip chart.

QUESTION:

WHAT PROBLEMS DO YOU HAVE PERFORMING THIS JOB?

IS IT A PROBLEM WITH THE QUALITY OF YOUR DATA OR IS IT A QUANTITY PROBLEM?

If there is a quantity problem, make a note. If it is a quality problem; WHAT DO YOU USE AS A SOURCE FOR THIS INFORMATION?

DO YOU HAVE A COPY OR A SAMPLE?

II. GUIDELINES FOR DETERMINING DEFICIENCIES IN DATA AND/OR PROCESSES (cont.)

If a copy or sample can be obtained, annotate it as appropriate. If no copy or sample can be obtained, use appropriate menu. If subject is not covered on a menu, record pertinent comments on flip chart. These will be explored fully in STEP 4.

NOTE: Ask which Job Code problem is related to if necessary.

(Go back to STEP 2 for subsequent jobs.)

STEP 3.

Organizing information gained from group interview. (IBLM team members only.)

1. Transfer information from flip charts and notes to Job Activity Matrix (JAM) charts primarily in the 'INPUT PRODUCTS' column.
 - a. Circle the appropriate entry already in the column or add an entry. Annotate as required either with 'GOT SAMPLE' or a description of the deficiency(ies).
 - b. If the deficiency does not 'fit' a JAM chart, enter it into a clean set of notes. Be as specific as possible.
2. Take a blank JAM chart and place 'memory joggers' of input products in each column, e.g., Vegetation, Soils, etc., so that you can summarize what was discussed in the general interview for each information category.

STEP 4.

Questioning for data, information, and process deficiencies in each information category, e.g., Vegetation, Soils, etc.

Get group together and inform them that you hope to limit discussion in each area to approximately 15 minutes, then:

1. Summarize, using the 'memory joggers' all deficiencies listed on the JAM chart from STEP 3, then ask, "ARE THERE ANY OTHER DEFICIENCIES IN DATA, INFORMATION, OR PROCESSES IN THIS AREA?"

II. GUIDELINES FOR DETERMINING DEFICIENCIES IN DATA AND/OR PROCESSES (cont.)

2. Record any problems at a detailed level. Get samples and annotate where appropriate. On special problem areas that will require detailed discussions by one or two individuals, suggest a separate meeting later.
3. Cover all categories on the JAM charts in this manner.
4. Go back through JAM chart to determine "LOADING". If there is no immediate response to the "HOW MANY" question, suggest the value from the Loading chart and ask, if that value would be adequate at the 'INVENTORY AND ANALYSIS' level. Record all responses--particularly deviations from the Loading chart.
5. Get from DM/SD percentages of effort for each workload item, as well as priorities. (Priority means the order in which the workload has to be done.)

STEP 5.

Organizing and checking all information gathered. (IBLM team members only.)

It is suggested that this be done immediately in order to assure that there are no loose ends that require further discussion. In the event that loose ends exist, contact the appropriate individual(s) for further discussion.

REMEMBER: GET SAMPLES AND ANNOTATE THEM, WHERE POSSIBLE.

BE SPECIFIC

GET COPY OF LOCAL FORMS AND INSTRUCTIONS FOR THEIR USE.

II. GUIDELINES (cont.)

This general guideline should be useful in recording quality deficiencies.

Job: Information Used: Information Deed:

Source/ I/O Product	Sample	Content (Kind, Resolution)
Do you have a source? (Availability) Is it adequate? Reliable? (who uses it?) Provided on a timely basis? How much of the report is used? Any problems w format/ layout?	TITLE-	Is it adequate? If not, why not? Resolution- Volume- Is it accurate? (update capabilities) If not, why not? Too old Is the resolution okay? Update: How often does the data change?
Volume	Acquisition	Storage
Too much data?	How do you get the information? Telephone? Someone's head?	Any difficulty in
Not enough data? How frequently is it used? How much area is covered?	How often do you get the information (Report)?	Do you need to keep the data?

PART III - EQUIPMENT

III-1. AUTOMATED DATA PROCESSING

Contact: _____

System owned by: _____

Located at: _____

Manufacturers: _____ Type: _____

Make: _____ Model: _____

Future/Expected Support--Describe: _____

Desired Support--Describe: _____

III-1. AUTOMATED DATA PROCESSING (cont.)

Application: _____

Description available? _____ (Get copy or specify how/where one can be obtained.)

Products: _____ (A,I,N) why
(Get samples) _____

Operating System: _____

Application: _____

Description available? _____ (Get copy or specify how/where one can be obtained.)

Products: _____ (A,I,N) why
(Get samples) _____

Operating System: _____

Application: _____

Description available? _____ (Get copy or specify how/where one can be obtained.)

Products: _____ (A,I,N) why
(Get samples) _____

Operating System: _____

~~111-2. REMOTE SENSING (Aerial Photography & Other Sensors)~~

Equipment presently available.

Use made of equipment.

Have you identified a need for additional equipment?
(Specify use & resolution)

III-2. REMOTE SENSING (cont.)

Have you ever used ERTS satellite imagery? _____

A - For what purpose?

B - What scale?

C - B&W or CIR?

D - How useful was ERTS imagery?

Would regional information obtained from satellite imagery be useful to you for planning purposes?

III-2. REMOTE SENSING (cont.)

AERIAL PHOTOGRAPHY COVERAGE OF DISTRICT:

<u>Date of Photos</u>	<u>Scale</u>	<u>% of District Covered (Est.)</u>
-----------------------	--------------	-------------------------------------

Update of Aerial Photography:

How often do you feel photography should be updated? _____
Are you considering an update of aerial photography in the near future?

A - How large an area?

B - Scale?

C - B&W, Color, CIR?

D - How are A,B, & C determined?

Who has major input into preparing aerial photography contracts?

Are district personnel adequately trained to use aerial photographs?

A - Where are your deficiencies (by activity)?

Have you ever ordered ERTS satellite imagery from Sioux Falls or
Western Aerial Photography Lab (Salt Lake)? _____

III-3. DATA TRANSMISSION CAPABILITIES

Type of transmission equipment.

Major uses.

III-4. DOCUMENT STORAGE CAPABILITIES (Microfilm, Microfiche, File Search, etc.)

Type: _____

Location: _____

Use: _____ (A,I,N) why

Type: _____

Location: _____

Use: _____ (A,I,N) why

Future or Expected Support--Describe: _____

LOADING

Vegetation - Trees (1B)

<u>Land Type</u>	<u>Inventory Acres</u>	<u>Allowable Cut Inventory</u>	<u>Operational Inventory</u>
O & C	2,399,372	1/924 acres	1/40 acres
PD	8,858,046	1/881 acres	1/160 acres
Alaska			1/640 acres

Vegetation - Other (Range, Wildlife, Watershed) (1B)

Lower 48 1 plat/640 acres, 265,625 total plots

Alaska 1 plot/640 acres, 360,000 total plots

Soils (1A)

Lower 48 1 plot/640 acres, 265,625 total plots

Alaska 1 plot/640 acres, 360,000 total plots

Minerals, Geology, Sub-Surface Water (1A)

Lower 48 3 holes/640 acres, 796,875 total holes

Alaska -0-

Surface Water (2A), Meteorology (1A)

Lower 48 1 sampling station/township (23,040 acres) 7,400 sampling
stations total

Alaska -0-

Transportation/Rights-of-Way (1A)

3,000 cases/year Bureau-wide Total

Recreation

MFP Areas 500 Total (approximately)

Specific Areas within MFP areas 10 x 500 or 5,000 Total

Cultural

400,000 total (approximately) not including OCS sites

Use Authorizations (1-4A)

	<u>Cases Closed</u>		
	<u>71</u>	<u>72</u>	<u>73</u>
Grazing Leases	8,376	8,318	8,134
Grazing Permits (incl. E.of U. Permits)	15,140	14,765	14,947
Non-mineral Cases (excl. R/W) ^{1/}	4,285	3,404	3,454
R/W ^{1/}	2,932	3,447	3,559
Mineral Invest. ^{1/}	5,141	1,674	5,255
Oil & Gas Leases ^{1/}	60,513	59,860	64,056
Other Mineral Leasing ^{1/}	1,282	2,300	1,743
Other Transactions ^{1/} (Mineral Material Disp. W/D & Reser. Restorations & Revoc.)	729	409	452
Free Use Permits	19,085	18,895	2,540
Crossing Permits	610	682	721
Timber Sales	1,267	3,047	1,383
Non-Tbr. for. prod & other veg. mater. sales	2,347	1,191	16,568
Bureauwide Total	121,707	117,992	122,812
Unclosed L&M adj. cases-E.O.Y. ^{1/}	43,200	52,425	49,498

^{1/} Unclosed Adj. Cases include 6 categories identified with super script 1.

Survey Control (1 & 4)

Bureau-wide

Monuments	15,741/yr.
Miles of Line	5,634/yr.
No. of Surveys	340/yr.
Mineral Surveys	48/yr.

State Office Survey Approach Variances

Identify major workload items by division. These items should be in the BLM Work Job Handbook.

Discuss each major workload item with the appropriate division, dismissing other divisions. Cover loading factors with each division. State Director and Associate Director should stay if possible.

Reconvene entire group for Jam Chart summary.

Conduct equipment survey with Chief of Management Services.

Close out with State or Associate Director and get job priorities.

Percentages of workload are not required.

APPENDIX B

Data/Information Category

Data/Information Elements

1A. Tree Record

- Species Description
- Age & Form Class
- Growth Rate (leader length, growth rings)
- Disease or Parasites
- Cruise Info. (DBH, defect, log data)

1B. Plot Record

- Composition of Plot by Species
- Site Index
- Crown or Canopy Description
- Stand Vigor
- Age & Form Class
- Utilization Info. (timber sales, fire)
- Growth Rate or Production
- Percentage Bare Ground
- Percentage of Litter
- Diseases - insects or parasites
- Seeding & Planting Info.
- Special Info. (research & studies)

1C. Forest Type Record

- Composition of Type by Species
- Vegetative Trend
- Site Index
- Crown or Canopy Description
- Stand Vigor
- Age & Form Class
- Utilization Info. (timber sales, animal use, fire)
- Growth Rate or Production
- Percentage of Bare Ground
- Percentage of Litter
- Diseases, Insects, or Parasites
- Seeding or Planting Info.
- Special Info. (research & studies)

Data/Information Category

Data/Information Elements

2A. Plant Record

- Species Description
- Plant Vigor
- Age or Size
- Animal Use
- Growth Rate
- Disease, Insects, or Parasites
- Special Information (research & studies)

2B. Plot/Transect Record

- Composition of Plot by Species
- Vegetation Trend
- Production in lbs. per Acre by Species
- Stand Vigor
- Utilization Information (animal use & fire)
- Percentage of Bare Ground
- Percentage of Litter
- Diseases, Insects, & Parasites
- Seeding or Planting Information
- Special Information (research & studies)

2C. Vegetative Type Record

- Composition of Type by Species
- Vegetation Trend
- Site Potential
- Production in lbs. per Acre
- Type Vigor
- Utilization Info. (animal use & fire)
- Percentage of Bare Ground
- Percentage of Litter
- Diseases, Insects, or Parasites
- Seeding or Planting Information
- Special Information (research & studies)
- Use Area
- Carrying Capacity for Different Uses

Data/Information Category

Data/Information Elements

1A. Soil Sample Record

-Texture	by horizon and 0-4", 4"+
-USDA	
-Unified	ditto above
-AASO	" "
-Fraction 3" (%)	
-% of Material 3"	
passing sieve:	
4	" "
10	" "
40	" "
200	" "
-Liquid Limit	" "
-Plasticity Index	" "
-Proctor Compactive Curve	" "
-Permeability	" "
-Avail. Water Capac.	" "
-pH	" "
-Salinity	" "
-Shrink-Swell Potential	" "
-Corrosivity	
-Steel	" "
-Concrete	" "
-Cemented Pan	
-Depth	
-Hardness	
-Bedrock	
-Depth	
-Hardness	

1B. Soil Type Record

-Acres
-Erosion Factors
-K
-T
-Wind Erodibility Group
-Flooding
-Frequency
-Duration
-Months (Jan. -- Dec.)
-High Water Table
-Depth
-Kind
-Months
-Subsidence
-Initial
-Total
-Hydrologic Soil Group
-Potential Frost Action

Data/Information Category

Data/Information Elements

- Use Suitability
 - Septic Tank Absorption Fields
 - Sewage Lagoons
 - Sanitary Landfill (Trench)
 - Sanitary Landfill (Area)
 - Daily Cover for Landfill
 - Shallow Excavations
 - Dwellings without Basements
 - Dwellings with Basements
 - Small Commercial Buildings
 - Local Roads and Streets
 - Roadfill
 - Sand
 - Gravel
 - Topsoil
 - Pond Reservoir Area
 - Pond Embankment
 - Excavated Ponds Aquifer Fed
 - Drainage
 - Irrigation
 - Terraces and Diversions
 - Grassed Waterways

1C. Classification/Series Record

Data/Information Category

Data/Information Elements

MINING

1A. Core Record
Outcrop Record
Mining Record

- Record #
- Kind of Mineral
- # of Seams (Deposits), and for each:
 - Thickness
 - Btu
 - Moisture
 - Volatile %
 - Fixed Carbon
 - Ash Content
 - Sulfur Content
 - Potential Use
 - Trace Elements
- # of Overburden Layers, and for each:
 - Salinity
 - pH
 - Avail. Water Capac. when on surface
 - Erodibility when on surface
 - Permeability when on surface

1B. Deposit/Seam Record

- Deposit (Seam) #
- Type (strippable or underground)
- Acres
- Dip
- Recovery Factor
- Member
- Formation
- Total Reserve
- Average Thickness
(as above)
- Trace Elements
- Overburden Layer #
- Average Salinity
(as above)
- Permeability when on surface

1C. Field Record

- Total Reserve
- Acres

Data/Information Category

Date/Information Elements

OIL & GAS

**2A. Drill Record
Seismic Record**

- Record #
- Location
- Date
- Crude Oil Analysis
- Natural Gas Analysis
- Brine (Water) Analysis
- Depth to Oil/Gas
- Reserve Data
- Other Information
- Public
- Private

2B. Field Record

- Acreage
- # of Producing Wells
- Pertinent Reservoir Characteristics

2C. Reservoir/Basin Record

Data/Information Category

Data/Information Elements

SUBSURFACE

1A. Strata Record

- Strata Description (physical & location)
- Outcrop Description
- Parent Material
- Faults & Dips & Thrusts
- Volume per Acre
- Chemical Characteristics
- Topographic Information
- Geomorphic Characteristics

1B. Formation Record

- Formation Description (age, physical & location)
- Outcrop Descriptions
- Faults & Dips & Thrusts
- Geomorphic Characteristics

1C. Profile Record

- Profile Description (age, physical & location)
- Faults & Dips & Thrusts
- Geomorphic Characteristics
- Earthquake History & Potential

SURFACE

2A. Elevation

- Altitude
- Slope
- Aspect

2B. Topography

- Topographic Description
- Drainage Characteristics
- Slope Analysis (Automated)

2C. Land Form

- Land Form Description

PHENOMENA

3A. Fault

4A. Volcanic

5A. Geothermal

6A. Paleontological

C-7

- Slides

Data/Information Category

Data/Information Elements

SUBSURFACE

1A. Water Record (wells)

- Depth to Table
- Table Thickness
- Chemical-Quality
- Well Location
- Well Flow & Pressure

1B. Aquifer Record

- Aggregate Well Records
- Depth
- Thickness
- Volume
- Quality
- Recharge Area
- Recharge Rate
- Permeability
- Flow Director & Pattern

1C. Hydrologic Basin

- Aggregate Aquifer Records
- Depth
- Thickness
- Volume
- Quality
- Recharge Area & Rate
- Permeability
- Static Pressure

SURFACE

2A. Water Sample Record

- Flow and Quality
- Rate of Flow
- Quality
- Location
- Chemical Characteristics
- Temperature
- Solids, Oxygen, Impurities, Turbidity

2B. Body Record

- Volume--Depth & Area, Flow Rate
- Quality
- Flow Pattern & Record
- Historic Use
- Food Species Present (fish)
- Chemical Characteristics
- Temperature

2C. Watershed Record

- Area, Flow Volume in Acre Feet/Year
- Sedimentation in Acre Feet/Year
- Uses--Excesses or Deficiencies
- Gradient
- Chemical Characteristics
- Flow Patterns
- Evaporation

Data/Information Category

Data/Information Elements

1. Species Record

- Species Description & History
- Life Cycle
- Diseases & Parasites
- Anatomy & Physiology
- Water Requirements
- Food & Nutritional Requirements
- Oxygen Requirements
- Habitat Requirements
- Natural Control Factors

1B. Herd Record

- Herd Biological Unit Count Description & History
- Population Management Techniques
- Migration Needs & Patterns
- Habitat Areas
- Habitat Management Techniques
- Water Requirements
- Food & Nutritional (oxygen) Requirements
- Natural Control Factors (disease, predation)
- Breeds & Breed Characteristics
- Hunter Pressure (fishermen)
- Predator Statistics
- Harvest Data

1C. Geographic Population Record

- Population Description & History
- Population Management Techniques
- Natural Control Factors (disease, winter loss, predation)
- Migration Needs & Patterns
- Habitat Areas & Management Techniques
- Water, Food, Oxygen & Nutrition Requirements
- Hunter Pressure (fishermen)

Data/Information Category

Data/Information Elements

1A. Station Record

- Location
- Elevation
- Sensor Type
- Rainfall
- Snowfall
- Temperature
- Wind Velocity
- Wind Direction
- Relative Humidity
- Evaporation Rate
- Cloud Height
- Cloud Cover
- Air Quality
- Dispersal

1B. Region Record

- Aggregate Station Records
- Wind Rosettes
- Cyclone/Hurricane Frequency
- Growing Season
- Yearly Temperature Profile
- Hail Frequency
- Yearly Rainfall
- Monthly Rainfall Profile

1C. Climate Record

- Aggregate Region Records
- 100 Year Cycle Trend

Data/Information Category	Data/Information Elements
1. License	
2. Lease	
3. Permit	
4. Sale	
5. Deeds-for recreation (compliance)	
A. Billing Data	-Cycle -Unit of Measure -# of Units -Billee Address -Bill Amount
B. Product Data	
C. Authority	
D. Terms	-Rental -Royalty -Usage -Exploration -Sale Value
E. Other Bid Data	-Second Highest Bidder -# of Bidders -Bid Amount
F. Special Stipulations	
G. Operation & Maintenance Costs	

Data/Information Category

1A. Route Segment Record

Data/Information Elements

Planned and Actual

- Length of Route Segment
- Width of Route Segment
- Width of Total Easement Segment
- Grade of Route Segment
- Elevation of Route Segment
- Engineering Properties of Segment
- Erosion Potential Per Segment
- Stream Damage
- Legal Description

1B. Access Route Record

- Multiple Route Segment Records
- Acreage of Right-of-Way
- Length of Route
- Prime Use of Route
- Map Location and Nodes
- Topography of Area
- Resource Production Impact
- Aesthetics
- Appraisal Value
- Purchase Value

1C. Route Network Plan

- Aggregate Route Records
- Justification for Easement
- Ranking of Alternative Routes
- Costs of Routes
- Other Uses of Routes
- Land Value Before & After Easement

Data/Information Category

Data/Information Elements

A. Type Characteristics

- Activity Type & Description
- User Description
- Carrying Capacity Factors

B. Use Area

- Suitability
- Description of Potential
- Season of Use
- Visitor Use (#, Origin)
- Facilities
- Hazards & Undesirable Features
- Includes Water Recreation Areas
- Compliance Information plus Flags

IC. Geopopulation

- Planning Data

Data/Information Category

Data/Information Elements

1. Cadastral

2. Geodetic

3. State Highway

-Mineral Survey

4. Other BLM

5. Other non-BLM

A. Survey Type

B. Survey Number

C. Acres Surveyed

D. Survey Status

E. Monument Data

F. Boundary Type

Data/Information Category

Data/Information Elements

1A. Title Information

- Transfer Method
- Transferee Code
- Transferor Code
- Patent/Serial Number
- Date of Transfer
- Title Reservations
- Ownership
- Zoning Information

1B. Withdrawal, Classification,
Designation

- Serial Number
- Effective Date
- Type of Resource Segregation
- Authority

1C. Serialization, Contest

- Claimant
- Status
- Claim ID

1D. Claim

- Grantor
- Grantee
- Locators
- Type
- Claims History (both accepted and rejected claims)

1E. Land Use

- Class (Urban, Agricultural, Industrial)
- Unauthorized Uses
- Quality Class

Data/Information Category

Data/Information Elements

1. Population

- Net Decade Change
- Density
- Urban Net Decade Change
- Rural Net Decade Change
- Net Migration
- Distribution
 - Under 18 yrs (Total)
 - Over 65 yrs (Total)
 - Median Age (Total)
 - Under 18 yrs (Rural)
 - Over 65 yrs (Rural)
 - Median Age (Rural)
 - Male MA (Rural)
 - Female MA (Rural)
 - Persons/Household
 - Ethnic (Black)
 - Ethnic (Spanish)

2. Income

- Per Capita Personal
- State Per Capita Personal Average
- Total Personal Income
- Median Family Income
- \$5 K < Fam Income > \$12 K
- Under Poverty Level

3. Employment

- Total Labor Force (Over 16)
- Labor Force Participating
- Unemployment
- All Industrial Employment
- AG and Fish Employment
- Mining Employment
- Construction Employment
- All Manufacturing Employment
- Furniture & Lumber Employment
- Food and Kindred
- Transportation and Communication
- Utilities
- Wholesale Trade
- Retail Trade
- Services
- Finance, Ins. & Real Estate
- Public Education
- Public Administration

4. Education

- Grammar School
- High School
- College Undergraduate
- College Graduate

Data/Information Category	Data/Information Elements
1. Health	-Services -MD's per 1000 population -Nurses per 1000 population -Hospital beds per 1000 population -Miscellaneous Indicators -Divorce Rate -High School Dropout Rate -Liquor Sales -Longevity -Accident Rate -Disease Indicators -Heart -Cancer
2. Demand On Services and Capital	-Highways -Public Health -Police -Fire -Parks and Recreation -Streets -Sewer -Water -Other Sanitation -Library -Education -Personal Services -Mortgage Funds
3. Standards for Population Expansion	-Land Use per 1000 People -Expansion Expenditure per 1000 People -Schools -Hospitals -Public Facilities -Sewer -Water -Other Standards of Expansion
4. Quality of Life	-Housing Availability -Youth Club Memberships -Civic Association Memberships
5. Public Opinion	-Silent Majority Input
A. Community	
B. County	
C. State	

Data/Information Category

Data/Information Elements

1. Non-BLM Sales

1. Agricultural Sales

- Value, all Ag. Products Sold
- Value, all Crops Sold
- Beef Cattle Sales
- Other Meat Animals
- Hogs
- Sheep

2. Feed Analysis

- Livestock (Farms & Ranches)
 - BLM Permits and Leases
 - Beef Cattle and Calves
 - Multi-year Trends
 - Total Feed
- Sheep and Lambs
 - Multi-year Trends
 - Total Feed
 - BLM Feed

3. Timber Sales

- All Timber Operations
- Saw Log Volume
- Pulp Volume

4. Mineral Sales (by type)

- All Mining Operations
- Quarry Production
- Oil Fuels
- Gas Fuels
- Coal
- Other

5. Economic Activity Index

- Ag., Livestock
- Ag., non \$ Land Use Livestock
- Ag., Other
- Mng., Metals
- Mng., non \$ Land Use
- F Fuels, non \$ Land Use
- F Fuels
- Quarrying, non \$ Land Use
- Quarrying
- Construction Contracts
- Mnfg., Lumber & Wood Products
- Mnfg., non \$ Land Use Lumber
- Recreation
- D/S Effic. Index
- D/S Import Index
- D/S Combined Index
- Composite Adv. Index--SW
- Composite Adv. Index--BW

ta/Information Category

Data/Information Elements

Non-BLM Sales (cont.)

6. Economic Activity Analysis

- Impact Location (Local, Regional, National)
- Indust-Agr
- Indust-Mining
- Indust. Contract Const.
- Indust. Mnfg.
- Trans. and Comm.
- Public Utilities
- Wholesale and Retail Trade
- Finance
- Insurance
- Real Estate
- Gov. (Fed./State/Local)
 - Earnings
 - Export Related Earnings
 - Import Related Earnings
 - Indust. Inc. Multiplier

7. Benchmark Projections

- Population
- BLM Cattle
- BLM Horses
- BLM Sheep
- BLM Timber
- Mining (Metals) Earnings
- Mining (F Fuels) Earnings
- Mining (Quarry) Earnings
- S/D 10 Year Projections

State/Local Government
Revenues

1. Property Taxes

2. Other Taxes

3. Grants & Rebates

Industrial Investment

Community

County

State

]

Data/Information Category

Data/Information Elements

. Historical

- Area type: lake, stream, trail
- Priority for research
- Priority for recreation
- Usage (narrative)
- National Register of Historic Places .

. Archeological

- Type: shelter, cave, pueblo
- Priority for research
- Priority for recreation
- Time Period
- National Register of Historic Places

. Site

- Type: fort, town, ranch
- Priority for research
- Priority for recreation
- National Register of Historic Places.

Data/Information Category

Data/Information Elements

A. Personnel

- Manpower-Organization Report (19 Elements)
 - Name
 - Social Security Number
 - State Assigned
 - Organizational Assignment
 - Position Number
 - Position Title
 - Sex
 - Pay Plan (GS-WB-WAE)
 - Occupation Code
 - Grade and Step
 - Salary Amount
 - Service Computation Date
 - Date of Next Step Increase
 - Date of Birth
 - Type of Appointment (Career-Career Conditional)
 - Veterans Preference (5pt.-10pt.-none)
 - Employment CD (Perm., Temp., Part time, etc.)
 - FLSA (Exempt or non-exempt from Overtime.)
 - File Status (Recruit, Vacant, Abolish)

B. Organization

- Annual Salary (Gross) per Organization
- Total Appointments per Organization
- Number of Appointments Limited/not Limited
- Reap of Positions Used
 - Auth. Ceiling
 - Number
 - Filled, Vacant, Over ceiling, Part time
 - Intermittent, WAE, Temporary, Fire
 - Control, Dual, LWOP, Mil LV, Total
 - Other and Total of all
- Average Grade Permanent
- Average Grade All
- Type of Appointments
 - Career
 - Career Conditional
 - Taper
 - Temp. Ltd.
 - Term
 - V-R

Data/Information Category

Data/Information Elements

B. Organization (cont)

- XCP CAR
- XCP CCD
- XCP Ltd.
- X
- S-A

C. Bureau-Wide

- Manpower Recapitulation
 - DC
 - States
 - SC
 - BIFC
 - Eastern Ofc.
 - OCS
 - Total BLM
- Number of People by Grade BLM
- Total Salaries by Grade BLM
- Number Grade Vacancies (Total Count)

D. Training

- Employee Training Record
- Minority Training, Promotions, Accessions
- Employee Skill-Experience Talent Bank

E. Personnel Actions

- Grievance and Appeals
- Position Audits & Classification Actions
- Annual Performance Appraisals
- Recruitments
- Discipline
- Retirements
- Promotions, Demotions, Details

F. Payroll

- Prod. Hours
- Non-prod. Hours
 - Annual
 - Sick
 - Admin.
 - Court and Maternity
 - LV
 - AWOL
 - LWOP
- Deductions
 - Health Benefits
 - Gov't. Contribution
 - Retirement
 - Federal Taxes
 - State Taxes
 - FGLI
 - Bonds

Data/Information Category

Data/Information Elements

2. Payroll (cont)

- Other
- Pay Rates
 - Regular GS-WB
 - Hazards
 - Overtime
 - Night Differential
 - COLA

3. Supply

- Authorized Stockage List (GSA Catalog
- Stores Stock Inventory and Accountability
- Supply Transactions (Cost Distribution and Control)
- Warehouse Inventory (Receipt, Storage and Issue)
- Procurement
 - Local Purchase Expenditure, Control and Distribution
 - Contract (Services and Construction

4. Property

- Facilities Inventory by District
- Facilities Maintenance by District
- Facilities Construction by District
- Equipment Inventory by District
- Equipment Usage and Availability

5A. Reports Mgt. Authorized List of Reports (Data Required)

- Approval Criteria
- Periodic Review

6A. Forms Mgt. Authorized List of Forms

- Approval Criteria
- Periodic Review
- Stockage

7A. Files Mgt. Files System and Coding

- Generated
- Active
- Inactive Storage
- Destroyed

Data/Information Category

Data/Information Elements

1A. Annual Work Plan

- Concept and Development
- Periodic Review and Adjustment
- Progress Reporting and Completion

**2A. Programs, Activities,
Projects**

- Objectives
- Periodic Review and Evaluation
- Progress Reporting and Completion

3A. Budget

- Budget Development and Allocation
- Budget Expenditure Control
- Review and Adjustment
- Year End Reports

Managerial 83
Administration 81
Operations 44

Products Column (Input, Intermediate and Output)

(Identical codes and categories)

F Reports

- F1 Managerial (BLM Man. 1222)
- F1-1 Public Land Statistics
- F1-2 Casework Report
- F1-3 Management Review and Improvement
- F1-4 Director's Monthly
- F1-5 Washington Staff
- F1-6 Director's Highlights
- F1-7 Trial Balance and Supporting Schedules
- F1-8 Budget Execution SF-133
- F1-9 Cost Detail
- F1-10 Cost Summary
- F1-11 Special Activities
- F1-12 Program and Cost Report by Activity
- F1-13 Trust and Reimbursable
- F1-14 Unidentified Project Costs
- F1-15 FM Audit Trail
- F1-16 Employee Activity Report
- F1-17 Analysis of Collections, Details, Funds
- F1-18 Distribution of Receipts
- F1-19 Analysis of Suspense and Unearned Accounts Receivable by Office
- F1-20 Special Interest Projects
- F1-21 Age Analysis Accounts Receivable
- F1-22 Trail Balance, Pre and Post Closing with Supporting Schedules
- F1-23 Losses, Claims and Recoveries, Bonded Positions
- F1-24 Man Years and Personnel Cost
- F1-25 Expenditure and Receipts, OCS Lands
- F1-26 Federal Aid to State
- F1-26a Statement of Finance
- F1-27 Statement of Unexpected Balances of Appropriations and Funds, BA-R 2108
- F1-28 Selected Balances for Stating Budget Results on an accrual Basis
 BA-6727 and BA-6728
- F1-29 Age Analysis, Unearned and Suspense Accounts
- F1-30 Contractual Payments for Research and Development, State and Local
 Governments
- F1-31 Employment of Consultants
- F1-32 Status of Contract Authority, BA-7304
- F1-33 Foreign Loans and Credits
- F1-34 Report on Obligations SF-225 (Special)
- F1-35 Stating Budget Results on Accrual Basis, Appropriation and Fund
 Accounts, BA-6727
- F1-36 Statement of Transactions with Punched Cards and List (SF-224)
- F1-37 Proof of Accuracy for General Ledger Accounts, Cash and Advance
 Accounts, Accounts Payable and Allotment Accounts by Appropriation

Fl-38 Reconciliation of Treasury and Internal Transactions with General
 Ledger Accounts
 Fl-39 Analysis of Allotment Increases, Trust and Contribution Funds
 Fl-40 Accident Frequency Rates
 Fl-41 Accident Summary (DI-450)
 Fl-42 Quarterly Summary of Employee Injuries Accident/Incidents
 Fl-43 Monthly Incident Report
 Fl-44 Monthly Safety-Narrative and Committee
 Fl-45 Supervisors Report of Accident (DI-134)
 Fl-45a Information Service to-----
 Fl-46 Serious Accident-Narrative
 Fl-47 Annual Report of Training
 Fl-48 Agency Appeals Activity Under Part 771 of the CSC Regulations
 Fl-49 Pre-Complaints Counseling
 Fl-50 Room Security
 Fl-51 Contract Subject to Disclosure under CASB Reg.
 Fl-52 Mailing List of Publications
 Fl-53 Contract Over \$10,000 and more than 400 man hours of work
 Fl-54 Evaluation of PD Lands (Dawson Committee)
 Fl-55 Identical Bids
 Fl-56 Evidence of Collusive Bidding
 Fl-57 Secretarial Advise on Contract Awards over \$10,000
 Fl-58 Notice of Contract Award or Contract Modification, \$100,000 or more
 Fl-59 Notice of Award or Termination of Cost Sharing Study Contracts,
 Government Contributes \$25,000 or more
 Fl-60 Amts. Requested for Next FY by State and Congressional Districts
 Fl-61 Abolished Positions
 Fl-62 Public Relations Activities
 Fl-63 Federal Domestic Assistance Programs in Excess of 40 Million Dollars
 Fl-64 Status of Funds (DI-522)
 Fl-65 Status of Funds (DI-522)
 Fl-66 Narrative Pre-validation for Construction Contracts
 Fl-67 Committees Chaired by BLM
 Fl-68 Activities, Status and Changes in Composition of Advisory Committees
 Fl-69 Casual and Secondary Programs
 Fl-70 Congressional Meetings and Appearances
 Fl-71 Congressional Contacts
 Fl-71a Non-government Meetings
 Fl-72 Federal Funds for Research and Other Scientific Activities
 Fl-73 Case Phase II Report on Awards to Universities and Colleges for
 Research on Science Projects
 Fl-74 Report of Compensatory Royalty Agreements for Oil and Gas
 Fl-75 Forest Insect and Disease Control Expenditure Summary
 Fl-76 Blister Rust Control Expenditure Summary
 Fl-77 Forest Insect and Disease Control Pesticide Use Report
 Fl-78 Uniform Recreation Use
 Fl-79 Management Unit Summary for Annual Fee Report
 Fl-80 Phase I Ranking of Individual Watersheds.

F2 Administrative (BLM Man. 1222)
 F2-1 Vital Records Report
 F2-2 Incentive Awards
 F2-3 Summary of Records Holdings
 F2-4 Incentive Awards
 F2-5 Certificate of Destruction Report
 F2-6 Safeguarding of Defense Information
 F2-7 Status of Contract Authority
 F2-8 Geographic Distribution of Federal Payrolls
 F2-9 Summary of Retirement Fund Transactions
 F2-10 Positions Bonded, Types of Bonds, Costs, etc.
 F2-11 Waiver of Claims for Erroneous Payments of Pay
 F2-12 Actual Subsistence Expenses
 F2-13 Federal Outlay's by Geographic Location
 F2-13a Cash Balance is on Hand----
 F2-14 Distribution of Receipts by State, County and Commodity
 F2-15 U.S. Government Payroll Savings Plan
 F2-16 California Sales and Use Tax and S.F. Bart Tax
 F2-17 Minority Bank Report
 F2-18 Report on Foreign Travel
 F2-19 Motor Vehicle Tort Claim Payments and Recoveries
 F2-20 Statement of Participating Agencies, Reimbursable Expenditures,
 AID 7-239 and AID 7-318
 F2-21 Payroll Report of Federal Civilian Employment
 F2-22 Progress in Safety
 F2-23 Financial Report of Fire Loss
 F2-24 Planning Report for Summer Employment
 F2-25 Salary & Wage Distribution
 F2-26 Emergency Loan Committee
 F2-27 Whitten Amendment Report
 F2-28 Quality Increases Granted and Within-grade Increases Withheld
 F2-29 Performance Evaluation Report
 F2-30 End of Summer Report
 F2-31 Occupations of Federal Employees
 F2-32 Geographic Distribution Federal Employees
 F2-33 Federal Participation in Enrollee Programs
 F2-34 Number of Retirements
 F2-35 Federal Civilian Employment, SF-113-A
 F2-36 Placement Report
 F2-37 Report on Veterans
 F2-38 Temporary Summer Employment
 F2-39 Monthly Status Report of Reg. Div. or Equiv. Pos.
 F2-40 Statistical Report on Women, GS-13/18
 F2-41 Training Instances by Women and Minority Groups
 F2-42 Awards by Women and Minority Groups
 F2-43 Minority Census
 F2-44 Accessions by Women and Minority Groups
 F2-45 Promotions by Women and Minority Groups
 F2-46 Narrative Reports of Women and Minority Groups
 F2-47 Equipment Purchase under R&D Contracts: Title Vested in Contractor

- F2-48 Parking License
- F2-49 Inventory of Real Property
- F2-50 Inventory Certification
- F2-51 Surplus Real Property Disposals and Inventory
- F2-52 Supply Activity
- F2-53 Contract Field Printing
- F2-54 Estimated Annual Mailings
- F2-55 Real Property Owned by the U.S.
- F2-56 Inventory of Leased Real Prop.
- F2-57 Identification of Unneeded Real Property
- F2-58 Agency Report of Motor Vehicle Data
- F2-59 Cost of Contract Field Printing
- F2-60 Roster of Field Officials
- F2-61 Cross-Servicing
- F2-62 Recovery of Silver
- F2-63 Labor Enforcement
- F2-64 Procurement by Civilian Executive Agencies
- F2-65 Use of Excess Aluminum
- F2-66 Agency Space (Regional Headquarters Cities & Washington Metropolitan Area)
- F2-67 Commercial Printing Report
- F2-68 Utilization and Disposal of Excess and Surplus Personal Property
- F2-69 FTS Usage for Facsimile Transmission
- F2-70 Outbound Freight Shipment
- F2-71 Limousines, Heavy Sedans, and Medium Sedans Report
- F2-72 Acquisition of Power Operated Collators
- F2-73 Notice of Award of Supply or Service to Labor Department
- F2-74 Proposed Procurement from Foreign Sources
- F2-75 Ocean Freight Shipments
- F2-76 Reimbursable Technical Services
- F2-77 PASA Personnel Strength
- F2-78 Un Fellows
- F2-79 Tables A,B and C on Geographical Breakdown of Performers by State and Type of Performers
- F2-80 Uniform Relocation and Real Property Acquisitions

- F3 Operations (BLM Man. 1222)
- F3-1 Initial Analysis Update Planning Unit Roster & Overlay
- F3-2 Water Development Projects Reports Affecting BLM Administered Lands (BLM Interest Tentative)
- F3-3 Water Development Projects Affecting BLM Administered Lands (Important Impact on BLM Confirmed)
- F3-4 Planning System Progress Report: URA & MFP
- F3-5 Planning System Progress Econ. & Mgnt. Profiles: Land Use Guides
- F3-6 Report of Environmental Statements
- F3-7 Environmental Statements and Analysis Report
- F3-8 Easement Acquisitions and Land Purchases
- F3-9 Planning System Progress Report
- F3-10 Allotment Management Plans

- F3-11 Narrative Construction Activities
- F3-12 Narrative Maintenance
- F3-13 Development Work Progress Report
- F3-14 Cartography Progress Report
- F3-15 Progress Report (Form 1630-5)
- F3-16 Job Documentation Progress Report
- F3-17 Report to Congress on the Implementation of Alaska Native Claims Settlement Act
- F3-18 Report to Congress on the Location, Size and Values of Lands Withdrawn and Recommendations with Respect to such lands.
- F3-19 Progress and Status of Alaskan Land Grant
- F3-20 R/W Applications for 115 K V or more, Trans. lines
- F3-21 Reports of Negotiated Sales Under the Materials Act
- F3-22 Annual Grazing Statistical
- F3-23 Allotment Management Plans - State Summary
- F3-24 Forest & Windbarriers Planted
- F3-25 Reforestation Status & Annual Summary
- F3-26 Reforestation, Site Preparation, and Protective Measures Accomplished
- F3-27 Forest Insect or Disease Control Project Disposal
- F3-28 Summary of Insect and Disease Control Project Proposals
- F3-29 Forest Insect and Disease Control Accomplishment and Expenditure Report
- F3-30 Forest Insect and Disease Control Accomplishment Summary
- F3-30a Blister Rust Control Accomplishment and-----
- F3-31 Blister Rust Control Accomplishment Summary
- F3-32 Blister Rust Control Status Report
- F3-33 Status Report by Land Ownership
- F3-34 Outdoor Recreation Statistics
- F3-35 Wildlife Annual Report
- F3-36 BLM Watershed Conservation and Development System
- Determination of Rating Points by Individual Watersheds
- F3-37 Dept. Statistical Report (Agri. Form 3100-2c)
- F3-38 Annual Strength of Force
- F3-39 Weekly Fire Reports
- F3-40 Individual Fire Reports
- F3-41 Special Situation Fire
- F3-42 Daily Fire Report
- F3-43 Appraisal Summary Log

- F4 Other BLM (incl. narrative)

- F5 Other Agency

Products Column (Input, Intermediate and Output) (identical codes and categories)

A Imagery

- A1 - 9"x9" BW
- A2 - 9"x9" Color
- A3 - 35 mm Color
- A4 - 70 mm Color

B Graphics

- B1 - Film Overlays
- B2 - Map Overlays
- B3 - Other Overlays

C Maps (see attachment)

D Statistics & Tabular

- D1 - Punched Cards
- D2 - Computer Tape
- D3 - Disk Packs
- D4 - Computer Printouts
- D5 - Field Entry Forms

E Standard Forms (by type & identifier)

F Reports

select paper management system
identifiers

G Other Mixed Format Records

- G1 - Claims Definition
- G1-1 - Cadastral Survey Field Notes
- G1-2 - Township Plats
- G1-3 - Mining Claim Patents
- G1-4 - Meets and Bounds Records
- G2 - Disposals
- G2-X - Case Files

- G3 - Master Title Plats
- G4 - Leaseable Minerals Plats
- G5 - Historical Tract Index
- G6 - Control Document Index
- G7 - Microfilm Records

7/16

Utilization - Uses Column

A - Planning and Management

B - Research and Development

C - Construction and Implementation

D - Operations

Input Processes Column

A Conversion and Entry

- A1 - Key Punching
- A2 - Direct Data Entry
- A3 - Remote Terminal Entry
- A4 - Film Digitization
- A5 - Graphics Digitization
- A6 - Other

B Procedural

- B1 - Assemble
- B2 - Verify
- B3 - Edit
- B4 - Abstract
- B5 - Index
- B6 - Collate
- B7 - Drafting
- B8 - Other

INPUT/OUTPUT FLOW MENU

Source - Agency Column

Utilization - Users Column

} Identical Codes & Categories

A BLM

- A1 - Resource Area Manager
- A2 - District Staff
- A3 - District Manager
- A4 - Service Center Staff
- A5 - Service Center Manager
- A6 - Special Office Staff
- A7 - Special Office Manager
- A8 - State Office Staff
- A9 - State Office Manager
- A10 - Headquarters Staff
- A11 - Headquarters Manager

B Other Federal Agencies

- B1 - US Geological Survey
- B2 - Bureau of Mines
- B3 - Bureau of Reclamation
- B4 - Bureau of Indian Affairs
- B5 - National Park Service
- B6 - Office of Water Resources
- B7 - Bureau of Sport Fisheries & Wildlife
- B8 - Other US Dept. of Interior
- B9 - US Forest Service
- B10 - Soil Conservation Service
- B11 - Other US Dept. of Agriculture
- B12 - National Science Foundation
- B13 - Atomic Energy Commission
- B14 - National Aeronautics & Space Administration
- B15 - National Atmospheric and Oceanic Administration
- B16 - Dept. of Transportation
- B17 - Army Corps of Engineers
- B18 - Environmental Protection Agency
- B19 - Council on Environmental Quality
- B20 - Federal Energy Office
- B21 - Regional Commissions

C State/Local Government

D Public/Civic

- D1 - Private Citizens
- D2 - Citizen Action Groups
- D3 - Elected Officials

E Commercial

- E1 - Consultants
- E2 - Small Business
- E3 - Large Corporate

F Institutional

- F1 - Universities
- F2 - Professional Groups
- F3 - Foundations
- F4 - Other

